IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

Appln. No:	10/525,059
Applicants:	Hirokazu Kobayashi et al.
Filed:	February 18, 2005
Title:	MOBILE ROUTER DEVICE, MOBILE NETWORK SYSTEM, AND MOBILE MANAGEMENT METHOD OF MOBILE ROUTER DEVICE
T.C./A.U.:	2142
Examiner:	Barak Nissan
Confirmation No.:	5856
Docket No.:	MAT-8656US

REQUEST FOR RECONSIDERATION UNDER 37 C.F.R. § 1.116

Expedited Procedure

Mail Stop AF
Commissioner for Patents
P.O. Box 1450
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Sir:

Responsive to the Final Office Action dated **March 3, 2008**, reconsideration is respectfully requested for the reasons set forth below:

Claims 1-18 are pending in the above-identified application.

Claims 1-2 and 4-18 were rejected under 35 U.S.C. § 103 (a) as being unpatentable over Korus et al., Shinomiya and Watanabe et al. It is respectfully submitted, however, that the claims are patentable over the art of record for the reasons set forth below.

SUMMARY

Applicants and the USPTO appear to be in disagreement as to whether a prior art backup router transmits a different "care of address" than a prior art master router. The USPTO appears to be arguing that the prior art routers are each transmitting a different "care of address." Applicants respectfully disagree.

Applicants' argument is, in summary, that the prior art routers each transmit the same "care of address" while Applicants' claimed routers each transmit a different "care of address."

DETAILED DISCUSSION

Applicants' invention, as recited by claim 1, includes a feature which is neither disclosed nor suggested by the art of record, namely:

> ... generating and transmitting a binding update message which makes the virtual address corresponding to the care of address when the mobile router device works as the master router ...
>
> ... the mobile network further includes a backup router device ...
>
> ... **the backup router device transmits another binding update message** that includes the virtual address corresponding to the mobile router device and **another care of address corresponding to the backup router device** ... (Emphasis added).

The mobile network 1 in Applicants' exemplary embodiment includes a mobile router device 2 and a backup router device 3. The mobile network may be connected to backbone network 8 via home gateway router 7 (Fig. 1). Mobile network 1 may move to different locations. For example, mobile network 1 may move to the location shown at Fig. 2. In Fig. 2, the mobile router 2 of mobile network 1 connects to backbone network 8 via access router 9 (first access router). When the mobile network 1 moves to the different location at Fig. 2, the mobile network may transmit "... a binding update message which makes the virtual address corresponding to the care of address when the mobile router device works as the master router," as recited in claim 1.

The mobile network 1 may, however, move to the location shown at Fig. 3. Thus, the connection to backbone network 8 may be lost between mobile router 2 and access router 9. The backup router 3 (of mobile network 1) may then connect to backbone network 8 via access router 10 (second access router). The backup router device may determine "... the connection to the backbone network is lost between the

mobile router device and the first access router ..." (Page 20, line 25 to page 21, line 5). The backup router device 3 may then transmit another binding update message to home network 20 that includes (1) the home address MR2_HoA of mobile router device 2 ("the virtual address corresponding to the mobile router device") and (2) the care of address MR3_CoA of backup router device 3 ("another care of address corresponding to the backup router device"). That is, **backup router device 3** "... **transmits another binding update message** that includes the virtual address corresponding to the mobile router device **and another care of address corresponding to the backup router device**."

To summarize, Applicants' exemplary embodiment includes a master router and a backup router. The master router and the backup router each send their own binding message update. The binding message transmitted by the backup router, however, includes a different "care of address" than the binding update message transmitted by the master router. Thus, the binding messages are different from each other.

The prior art does not disclose a **binding message transmitted by a backup router that includes a different "care of address"** than a binding update message transmitted by the master router.

Korus et al. includes a mobile network 1 having a mobile router 106. (Fig. 1). The mobile router 106 in Korus et al. monitors whether it has moved to a foreign network. (Col. 5, lines 51-65). If the mobile router 106 moves to a foreign network, it receives a care of address. (Col. 5, line 66 to col. 6, line 8). The mobile node is addressable by its care of address (and indirectly, by its home address) after moving to a new link. The home agent 150 registers the current care of address of mobile nodes. Responsive to the movement of a mobile node, home agent 150 intercepts packets destined to the mobile node's home address, encapsulates them, and tunnels them to the mobile node's registered care of address. (Col. 4. lines 55-60). Korus et al. does not disclose that the mobile network 1 "... includes a backup router device," as recited in claim 1. Further, Korus et al. does not disclose a backup router that "... determines the connection to the backbone network is lost," as recited in claim 1.

After the mobile router 106 in Korus et al. receives its care of address, the mobile router 106 may transmit a binding update message (which associates the care of address with the mobile subnet prefix) to corresponding nodes (CNs) so that the CNs may send message to the mobile router 106 via the care of address rather than the home address. Korus et al. does not, however, transmit another binding message update that includes the mobile node's home address and another care of address of the backup router. Thus, **the binding message update in Korus et al. does not include** "... the virtual address corresponding to the mobile router device and **another care of address corresponding to the backup router device**," as recited in claim 1.

Shinomiya discloses determining whether a router device works as a backup router that can connect a network to another network. (Paragraphs [0005] and [0011]). Shinomiya does not disclose a mobile network of any kind. Therefore, Shinomiya **does not disclose any care of addresses or any binding messages being sent that include addresses**. Thus, Shinomiya does not, disclose "... t**he backup router device transmits another binding update message** that includes the virtual address corresponding to the mobile router device **and another care of address corresponding to the backup router device**," as recited in claim 1.

The Office Action argues that Watanabe et al. discloses that "... the home agent can be modified as a backup router device." (Office Action, page 17, lines 14-15). Watanabe et al. discloses a home agent (HA) 208 which communicates with access routers AR1 To AR7. The home agent 208 of Watanabe et al. is not, however, included in a mobile network.

The access routers AR1 to AR7 communicate to different mobile networks (FIG.2). A mobile network may include a mobile device 210, as shown at mobile network 204F in FIG. 2. The binding messages are sent from the different mobile networks (i.e. mobile network 204F). Watanabe et al. does not, however, disclose that each of the mobile networks include a master router and a backup router. Thus, Watanabe et al. does not disclose, "... the mobile network further includes a backup router device," as recited in claim 1.

Further, Watanabe et al. does not disclose binding messages sent from both a master router and a backup router in a mobile network. Thus, Watanabe et al. does not disclose "... **the backup router device transmits another binding update message** that includes the virtual address corresponding to the mobile router device **and another care of address corresponding to the backup router device**," as recited in claim 1.

Thus, claim 1 is allowable over the art of record.

Claim 14, while not identical to claim 1, includes features similar to those set forth above with regard to claim 1. Thus, claim 14 is also allowable over the art of record for reasons similar to those set forth above with regard to claim 1.

Claims 2, 4-13 and 15-18 which include all of the features of their respective base claims, are submitted for allowance for the reasons described above with respect to their base claims.

Claim 3 was rejected under 35 U.S.C. § 103 (a) as being unpatentable over Korus et al., Shinomiya and Simpson. Claim 3 is allowable, however, because it depends from allowable claim 1.

In view of the foregoing amendments and remarks, this Application is in condition for allowance which action is respectfully requested.

Respectfully submitted,

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